

# AUTHORITY FOR EXPENDITURE

WORK SHEET

AFE NUMBER

☐ KAISER CEMENT & GYPSUM CORP.    ☒ KAISER GYPSUM CO.    ☐ PERMANENTE STEAMSHIP CO.

DIV.	SERIAL	YEAR
2	515	73

☐ PERMANENTE TRUCKING CO.    ☐ GLACIER SAND & GRAVEL CO.    ☐ \_\_\_\_\_

LOCATION Seattle, Washington

ISSUE DATE Nov. 9, 1973

AUTHORITY FOR ASSET ACQUISITION IS REQUESTED AS FOLLOWS:

ITEM NO.	QUANTITY	DESCRIPTION AND TERMS	ESTIMATED COST AND USE			SPENDING PLAN	
			TOTAL COST	PERIOD OF USE	IN-SERVICE DATE	YR. / MO.	AMOUNT
		Automation of second kettle to CONTINUOUS CALCINATION FLOW SYSTEM. System to include: Vari-speed drive and controls on kettle feed screws; internal baffles & hoods; temperature controller recorder; moisturizing sprays and installation: + 10% Contingency	\$ 9,100 910 <u>10,010</u>	15 YRS	7/74	74/2	\$ 10,010
		9503-022-5-    TOTAL	\$ 10,010			TOTAL	\$ 10,010

JUSTIFICATION FOR ACQUISITION	(See Attached)
(REFERENCE BY ITEM NUMBER)	

AMOUNT AND EXPLANATION OF RELATED NON-CAPITAL EXPENSE	* ADD ITEM
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STATEMENT OF GAIN OR LOSS ON RETIRED FACILITIES	Original Cost \$ _____ Estimated Recovery from Sale or Salvage \$ _____ Estimated Demolition and Removal Expense \$ _____ Book Value as of _____ Estimated Gain or (Loss) on Retirement \$ _____
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NATURE OF CAPITAL EXPENDITURE	<input type="checkbox"/> REPLACEMENT OF EXISTING FACILITIES <input checked="" type="checkbox"/> NEW CAPITAL INVESTMENT <input type="checkbox"/> AIR/WATER POLLUTION CONTROL FACILITIES
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AUTHORIZATIONS ACQUISITION APPROVED		ACCOUNTING USE ONLY							
ORIGINATOR <u>PJF</u> DATE <u>10/19/73</u> DIVISION AUTHORITY <u>10/20/73</u> DATE VICE PRESIDENT <u>[Signature]</u> DATE		DEPRECIATION POLICY		METHOD OF FINANCING (FOR CONTROLLER'S USE ONLY)					
		METHOD	BOOK <u>STCINK</u> TAX <u>SOVD</u>	<input type="checkbox"/> Lease <input type="checkbox"/> Leasehold Improvement <input type="checkbox"/> Lease/Purchase <input checked="" type="checkbox"/> Purchase	CAPITALIZE YES NO	EXPENSE YES NO	INV. CR. APPL. YES NO	YES NO	YES NO
		LIFE	<u>15 YR</u> <u>12 YR</u>						
		GUIDELINE CLASS #	<u>32</u>						
		COST CENTER	<u>017-03</u>	CLASS	<u>683</u>				
		<u>R.G. Hahnsteden</u> vice president							
		APPROVED FOR CONTROLLER'S DIVISION DATE							

The Seattle Plant is equipped with two kettles used for calcination of gypsum. These kettles now operate on an automated batch cycle system. Subsequently, one kettle was further automated to a continuous calcination flow system. In this system, land plaster is fed into the kettle in a continuous flow with calcined gypsum being ejected from the kettle in a continuous flow also. The batch cycle method is eliminated.

Stucco produced in the continuous flow system is of good quality and has shown better strength development and very good hydration characteristics. The operational uniformity of the system has been very good and indications are that fuel savings of 10% should be attained or \$4,000 per year. It is also estimated that production will be increased 30% and maintenance costs reduced by \$4,000 per year.

One disadvantage is that continuous calcined stucco has a high water-disintegrated surface area which necessitates additional mix water. This results in machine speed slowdown of two to four feet per minute. This problem can be overcome by moisturizing the stucco as it is being discharged from the kettle. Experimentation on this solution was tried at the Seattle Plant and was successful.

It is proposed to install fine mist water showers at the discharge port of the kettle to moisturize the stucco just prior to discharge from the kettle.

The average stucco tonnage production per day on the continuous batch cycle system is approximately 300 tons per day and it is estimated from data of past experimental runs that production on the continuous flow system would be 432 tons per day.  $= +132 \text{ Ton/day or } +44\%$

Fuel costs per ton of batch cycle calcined stucco have been approximately 12 therms per ton or \$0.55 per ton calcined. It is estimated that fuel requirements for the continuous flow system would be 11 therms or \$0.50 per ton calcined for a savings of \$.05 per ton. Based on an estimated stucco requirement of 80,000 tons per year, savings would be \$4,000.

#### Reduction in Calcining Mill Hours

Monthly stucco requirements = 6,700 tons = 10,200 MSFT belt per month.

$6700 \text{ tons} \div 300 \text{ tons per day} - \text{batch calcining} = 22.3 \text{ days calc. time required.}$

$6700 \text{ tons} \div 432 \text{ tons per day} - \text{continuous flow} = 15.5 \text{ days calc. time required}$   
 $\quad \quad \quad 6.8 \text{ days reduction per month.}$

Stucco requirements of 6,700 tons per month could be supplied on less than 5 days per week level of operations in the mill. However, the labor contract provision of a guaranteed 40 hour week would indicate a 5 day level of operation with one kettle in operation full time and the second kettle in operation approximately 40% of the time.

Sufficient stucco could be produced in 5 days per week to supply the board plant for 7 days per week and thereby eliminate weekend overtime and save \$1,600 per month or \$19,200 annually. *(plus labor problem)*

Equipment and Installation

1. Install air operated vari-speed drive and controls on kettle feed screws.	\$ 3,000
2. Change pulleys and gears on kettle feed screw drives	1,000
3. Install internal baffles, hoods and discharge pipe in kettle	1,500
4. Install temperature controller recorder and instrumentation	1,000
5. Install moisturizing sprays, controls and instrumentation	750
6. Air piping, valves, controls	925
7. Electrical wiring and controls	<u>925</u>
Sub-total	\$ 9,100
10% Contingency	<u>910</u>
TOTAL	<u>\$ 10,010</u>

Savings analysis based on annual fuel savings, reduced maintenance and overtime elimination:

Savings	\$ 27,200
Depreciation (10 years)	<u>1,000</u>
Gain before Taxes	26,200
Taxes @ 50%	<u>13,100</u>
Net Savings	13,100
Add Depreciation	<u>1,000</u>
Cash Flow	<u>\$ 14,100</u>
Payout Period	0.7 Years